



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,811	10/30/2003	Douglas Gene Keithley	10030825-1	1294
57299	7590	12/14/2006	EXAMINER	
AVAGO TECHNOLOGIES, LTD.				NGUYEN, HAI L
P.O. BOX 1920				ART UNIT
DENVER, CO 80201-1920				PAPER NUMBER
				2816

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/696,811	KEITHLEY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Hai L. Nguyen	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

- 1) Responsive to communication(s) filed on 28 December 2005.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

- 4) Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-13 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 December 2005 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. The amendment received on 11/09/2006 has been reviewed and considered with the following results:

As to the objection to the drawings, Applicant's revision of the drawings has not overcome the objection, as such; the objection is still maintained as set forth below.

As to the rejections to claims 3-6 and 8-13, under 35 U.S.C. 112, 1<sup>st</sup> paragraph, Applicant's arguments have been fully considered but are not deemed to be persuasive. Therefore, the rejections are maintained. The arguments supporting the previous rejections are addressed in detail below.

As to the rejection to claim 7, under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, Applicant's amendment has not overcome the rejection. Therefore, a new rejection to claim 7 is needed as set forth below.

As to the prior art rejections to the claims made in the previous Office Action, mailed on 5/03/2006. Applicant's arguments have been fully considered but are not deemed to be persuasive. Therefore, the rejections are maintained. The arguments supporting the previous rejections are addressed in detail below.

***Drawings***

2. The drawings were received on 11/09/2006. These drawings are unacceptable subject to informal drawings, which are not of sufficient quality. For example, most of the words and

labels/textual labels, such as in Fig. 5, are unreadable. Correction is required in reply to the Office action.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claimed limitation that "a predictor and corrector that receive the dithered signal and the reference signal, generating a "remove pulse" signal; and an output generator, receiving the dithered signal, reference signal, and "remove pulse" signal, generating a "clear pulse" signal and the constant frequency output", in claim 3, has not been enabled in the specification because the details of such function is not seen in the description of the preferred embodiment. For example, Fig. 2 is just simply a functional block diagram, which shows the predictor and corrector (18) receive the dithered signal (Fdither) and the reference signal (Fref) as the input signals, and output the output signal (REMOVE\_PULSE); but there is no given detail how the claimed circuit generates "remove pulse" signal from those input signals. Therefore, it is not clear as currently defined, how the circuits can perform those recited functions.

5. Claims 4-6 and 8-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claimed limitation that “a predictor, generating a first output signal indicative of the average number of dithered periods to remove per dithered period”, in claim 4, has not been enabled in the specification because the details of such function is not seen in the description of the preferred embodiment. For example, Fig. 6 is just simply a functional block diagram, which shows the predictor (42) receive the dithered signal (Fdither) and the reference signal (Fref) as the input signals, and output the output signal (the signal go into element 44); but there is no given detail how the claimed circuit generates the first output signal indicative of the average number of dithered periods to remove per dithered period. Therefore, it is not clear as currently defined, how the circuits can perform those recited functions in the claim.

The claimed limitation that “selecting a desired number of periods in the dithered signal to receive during a sample period of the reference signal; counting the actual number of periods in the dithered signal during the sample period”, in claim 8, has not been enabled in the specification for the same reasons. Note the above discussion with regard to claims 3-6.

The claimed limitation that “determining an average fractional number of dithered periods of the dithered signal to remove each dithered period”, in claim 9, has not been enabled in the specification for the same reasons. Note the above discussion with regard to claims 3-6.

The claimed limitation that “a predictor operative to estimate an average amount of correction per sample; a corrector operative to measure actual error in a previous sample”, in

claim 13, has not been enabled in the specification for the same reasons. Note the above discussion with regard to claims 3-6.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are the lack of structural and/or functional connections between the dithered signal, the reference signal, data and control signals, and the constant frequency output, as recited in claim 1, and others elements of the frequency synthesizer as recited in claim 7.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Murayama (US 5,719,512; previously cited).

With regard to claim 1, Murayama discloses in Fig. 6 a circuit comprising a reference signal (22); a frequency synthesizer (11, 23, 51, 61), receiving a dithered signal (14) and the reference signal, generating a constant frequency output (16); and configuration registers (61, it should be understood that 61 comprises registers since it is latched by the clock signal 62) transceiving data and control signals with the frequency synthesizer.

With regard to claim 2, the circuit further comprises a modulated analog phase lock loop (21, 24, 11, 23, 51), receiving the reference signal (22), generating the dithered signal (14).

#### *Response to Arguments*

10. In response to Applicant's arguments to claims 3-6 and 8-13 are rejected under 35 U.S.C. § 112, 1st paragraph. With regard to claim 3, Applicants point to Figure 2 and state that "One skilled in the art will understand how the claimed circuit generates the remove pulse signal from the other recited signals"; as supporting/enabling the recitations of the claims. However, Examiner respectfully disagree, for example, Figure 2 is just simply a functional block diagram, which shows the predictor and corrector (18) receiving two input signals, and outputting an output signal (REMOVE\_PULSE); but there is no given detail how the claimed circuit generates "remove pulse" signal from those input signals. Applicants refuse to provide detailed description documents such as a schematic diagram that would show details of the predictor and corrector circuitry illustrating how the circuitry performs to provide the "remove pulse" signal based on the input signals, as recited in claim 3, but rather repeatedly state that the recited functional blocks will be understood by those skilled in the art as to how these blocks function to perform the recited functions. This is an arbitrary distinction, leaving an unresolved factual issue.

Similarly, claims 4-6 and 8-13 have similar problems. Therefore, the rejections to claims 3-6 and 8-13 are proper and remain.

11. In response to Applicant's arguments with respect to the prior art rejections to claims 1-2 concerning the differences between the circuit of the prior art (Fig. 6 of Murayama) and the claimed circuit of claims 1-2. Applicant argues that the signal of Murayama is not a dithered signal. This argument is not persuasive because the "dithered signal" simply is a label of an input signal by the claimed limitations of the claims. Since the claims do not have any structural limitation providing an output signal would be defined as the dithered signal, thus any signal can be interpreted as the "dithered signal". By given the broadest reasonable interpretation; the input signal 14 of Murayama is the dithered signal because both are the input signals. During patent examination, the pending claims must be given their "broadest reasonable interpretation consistent with the specification." *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center*, WL 1067528 (Fed. Cir. May 13, 2004) (The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation). This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004).

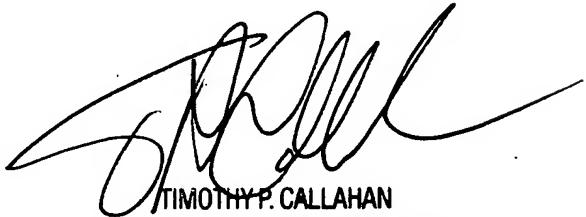
***Conclusion***

12. Regarding claims 7, the patentability thereof cannot be determined because of its indefiniteness.
13. Regarding claims 3-6, and 8-13, the patentability thereof cannot be determined because of failing to comply with the enablement requirement.
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 571-272-1747. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HLN   
December 03, 2006



TIMOTHY P. CALLAHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800